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MAR 31 2003

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Attorney Docket 44921-5055-02
Application No. 09/734,672
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PENDING CLAIMS

28. An isolated nucleic acid molecule that encodes a BRCA1 protein which contains a thymidine for cytidine substitution at a position corresponding nucleotide 2201 of SEQ ID NO: 1 and fragments thereof containing the substitution.

29. The isolated nucleic acid molecule of claim 28, wherein the nucleic acid ^{molecule} comprises the nucleotide sequence of SEQ ID NO: 1 or 3.

30. The isolated nucleic acid molecule of claim 28, wherein the nucleic acid molecule consists of the nucleotide sequence of SEQ ID NO: 1 or 3.

31. The isolated nucleic acid molecule of claim 30, wherein the nucleic acid molecule comprises nucleotides 120 to 5,708 of SEQ ID NO: 1 or 3.

32. The isolated nucleic acid molecule of claim 31, wherein the nucleic acid molecule consists of nucleotides 120 to 5,708 of SEQ ID NO: 1 or 3.

33. The isolated nucleic acid molecule of claim 28, wherein the nucleic acid molecule encodes a BRCA1 protein with a serine residue at a position corresponding to amino acid 694 SEQ ID NO: 2 or 4.

34. An isolated nucleic acid molecule that encodes a BRCA1 protein containing a serine residue at a position corresponding to amino acid 694 of SEQ ID NO: 2.

35. The isolated nucleic acid molecule of claim 33 or 34, wherein the nucleic acid molecule encodes a BRCA1 protein comprising SEQ ID NO: 2 or 4.

36. The isolated nucleic acid molecule of claim 33 or 34, wherein the nucleic acid molecule encodes a BRCA1 protein consisting of SEQ ID NO: 2 or 4.

37. The isolated nucleic acid molecule of claim 34, wherein the nucleic acid molecule contains a thymidine at a position corresponding to nucleotide 2201 of SEQ ID NO: 1.

38. The isolated nucleic acid molecule of claim 34, wherein the nucleic acid molecule comprises SEQ ID NO: 1 or 3.

39. The isolated nucleic acid molecule of claim 38, wherein the nucleic acid molecule consists of SEQ ID NO: 1 or 3.

40. The isolated nucleic acid molecule of claim 34, wherein the nucleic acid molecule comprises nucleotides 120 to 5,708 of SEQ ID NO: 1 or 3.

41. The isolated nucleic acid molecule of claim 34, wherein the nucleic acid molecule consists of nucleotides 120 to 5,708 of SEQ ID NO: 1 or 3.

42. The isolated nucleic acid molecule of claim 28 or 34, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

43. A vector comprising an isolated nucleic acid molecule of claim 28 or 34.

44. A host cell comprising the vector of claim 43.

45. A host cell transformed to contain the nucleic acid molecule of claim 28 or 34.

46. A host cell of claim 45, wherein said host is selected from the group consisting of prokaryotic hosts and eukaryotic hosts.

47. A method for producing a polypeptide comprising culturing a host cell of claim 45 under conditions in which the protein encoded by the nucleic acid molecule is expressed.

48. The method of claim 47, wherein said host cell is selected from the group consisting of prokaryotic hosts and eukaryotic hosts.